

- b. Solve by factoring: $3x^2 + 2x + 10 = 2x^2 - 5x$ set to zero

$$\begin{array}{r} -2x^2 + 5x \\ -2x^2 + 5x \end{array}$$

$$x^2 + 7x + 10 = 0$$

$$(x + 5)(x + 2) = 0$$

$$x = -2 \text{ and } -5$$

- c. Solve by factoring: $x^2 = -6x$

set to zero

$$x^2 + 6x = 0$$

$$x(x + 6) = 0$$

$$x = 0 \text{ and } -6$$

- d. Solve by factoring: $2x^2 - 12x + 18 = 0$

$$2(x^2 - 6x + 9) = 0$$

$$2(x - 3)(x - 3) = 0$$

$$x = 3$$

16. Solve the following quadratic equations using **square roots**. You **must** show your work to receive credit. Please **box** your final answer.

- a. Solve by square roots: $5 = 3(x + 2)^2 - 7$

$$\begin{array}{r} +7 \\ +7 \end{array}$$

$$\frac{12}{3} = \frac{3(x + 2)^2}{3}$$

$$\sqrt{4} = \sqrt{(x + 2)^2}$$

$$\begin{array}{r} \pm 2 = x + 2 \\ -2 \quad -2 \end{array}$$

$$\begin{array}{l} 2 - 2 = 0 \\ x = \pm 2 - 2 \\ \swarrow \searrow \\ -2 - 2 = -4 \end{array}$$

$$x = 0 \text{ and } -4$$